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(71) Applicant: MIDWAY GAMES, INC. [US/US]; 3401 North California, Chicago, IL 60618 (US).

(72) Inventors: BOON, Edward, J.; 2111 Juniper Lane, Arlington Heights, IL 60004 (US). NICASTRO, Neil, D.; 999 N. Sheridan Road, Lake Forest, IL 60045 (US).

(74) Agent: HERMANSON, Gary, L.; Rudnick & Wolfe, Suite 1800, 203 North Lasalle Street, Chicago, IL 60601-1293 (US).

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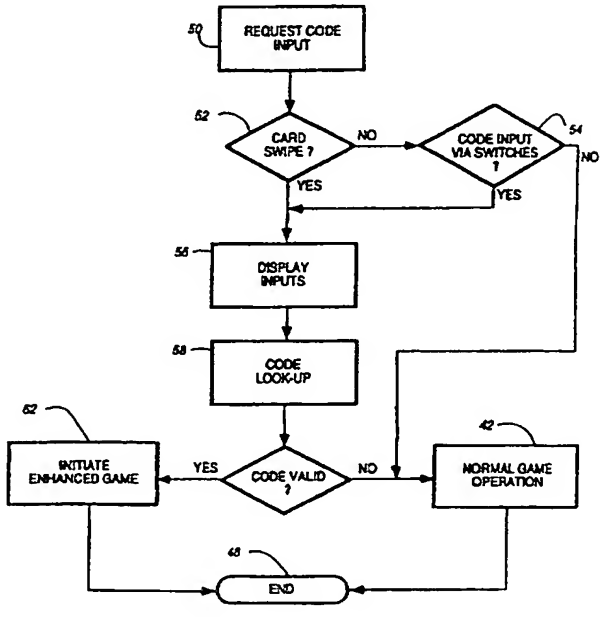
(54) Title: VIDEO GAME HAVING MORE THAN ONE MODE OF PLAY

(57) Abstract

This invention is a video game system (10) which employs player operated switches (33) or a magnetic card reader (32) to permit the input of game codes (58) prior to or during game play (42, 44, 62). The game system verifies the validity of the codes (58) and, if valid, permits access to enhanced game features (44, 62) not otherwise available to the game player (42). The system is microprocessor based (16) and the valid codes are stored in read only memory (12) or nonvolatile random access memory (14).



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VIDEO GAME HAVING MORE THAN ONE MODE OF PLAY

Background of the Invention

The present invention generally relates to video games and, more particularly, to a coin-operated video game having more than one mode of play or class of user.

A typical video game includes a game cabinet containing a microprocessor, memory associated with the microprocessor, a display and a plurality of player-operated inputs such as buttons, switches and the like mounted on the cabinet. A game program is stored in the memory and defines the rules and operating parameters permitting the video game to be played. As will be appreciated, different video games include different game programs.

A player begins play of a coin-operated video game by inserting the requisite number of coins or tokens into the game. To control play of a game, a player manipulates the player-operated inputs in an attempt to score points and to achieve other predetermined game objectives. It should be noted that a typical video game supports only one class of user in that the character or entity that a player controls during play of the game is equally available to all players.

Coin-operated video games typically are used in an arcade setting. Manufacturers of such games continually search for new ways to increase player interest and appeal. For example, entertaining visual and aural effects have been incorporated into coin-operated video games. Allowing multiple players to play simultaneously is also a known improvement. Another important development is the provision of home versions of arcade-type video games which permit players to enhance their skills at home.

Coin-operated video games and the corresponding home versions have been extremely successful in the marketplace and have resulted in the development of magazines, comic books, fan clubs and extensive advertising regarding play of the video games. Players read the magazines and comic books and correspond with others regarding the video games in an attempt to learn the secrets of each game and ways to improve individual performance of video game play.

To maximize player interest, it is desirable to directly link the peripheral items to the coin-operated game so that home game players, purchasers of ancillary goods and other game enthusiasts may obtain game playing privileges not available to a casual player.

SUMMARY OF THE INVENTION

The present invention is a coin-operated video game permitting multiple modes of play, specifically, a default mode and at least one mode. To access an enhanced mode, a player must input a valid code into the video game. If a valid code is entered, then the player is given an award and/or permitted access to enhanced game features. If an invalid code is entered, then the player remains in the default mode and normal game operation occurs.

In a first embodiment of the invention, enhanced modes are accessed by swiping a card carrying a magnetic code through a magnetic card reader mounted to the game cabinet. Such cards can be offered for sale or distributed with ancillary products relating to the coin-operated game. Alternatively, the player controls can be used to input a code displayed on the screen in the manner of a fanciful combination lock.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a block diagram of the components of a typical coin-operated video game.

Figures 2 and 3 are computer flow diagrams illustrating the program for determining the play of a video game having more than one mode of play.

DESCRIPTION OF THE INVENTION

Referring to Figure 1, the hardware 10 suitable for use with the present invention is illustrated in block form. Stored in read only memory (ROM) 12 is a computer program for playing a conventional video game. Also stored in ROM 12 is a program module which determines the mode of play. This program module can be incorporated into the game program of a conventional coin-operated video game and, as fully discussed hereafter, permits a player to access enhanced game features if a valid code is entered at the beginning of game play or at other times during play as determined by specific game rules.

Random access memory (RAM) 14 is used to temporarily store information associated with current play of the video game while microprocessor unit (MPU) 16 executes the instructions stored in ROM 12. Video section 18 permits MPU 16 to display video information relating to the game on a CRT 20. According to the present invention, the game may be equipped with either a magnetic strip card reader 32 or player controlled input switches 33, or both. The reader permits a player possessing a magnetic card to identify himself to the game to qualify for one or more enhanced game play features. As indicated in the Background section, the card can be made available to players in various ways: as a

premium, as a game give away with ancillary merchandise, as a prize, etc. In any case, only players who possess the card can initiate enhanced game play by swiping it through the card reader 32.

Instead of or in addition to card reader 32, it is possible to permit entry of enhanced game codes through player manipulation of input switches 33. These may include switch buttons or joysticks of the type commonly provided on video games. For this type of code entry, it is preferred that the microprocessor be programmed to display a simulated "combination lock" on the CRT 20. Player inputs via the switches 33 alter the symbols displayed to permit entry of game codes. A specific embodiment of this is described hereafter.

Figures 2 and 3 indicate the program steps of a subroutine that permits the coin-operated video game to support multiple modes of play. It will be understood by those of ordinary skill in the art that different hardware systems will use different computer code. However, the flow diagrams of Figures 2 and 3 permit the programming of the present invention for any system desired.

Referring to Figure 2, the program steps for a typical subroutine executed before play of a game is commenced is illustrated. If the player has inserted the requisite coins and the game has started, steps 34-38, it is determined whether an enhanced mode of

game play has been enabled, step 40. If so, then enhanced game operation takes place, step 44. If not, then normal game operation takes place, step 42.

Figure 3 is a more detailed block of the program steps 40-46 of Figure 2 necessary for determining whether an enhanced mode of operation of the video game has been enabled. After game play has been initiated, the game requests code input step 50. If the game includes a card reader and a card containing a valid magnetic code has been swiped through card reader, step 52, then an enhanced game is enabled. If no card is swiped, or if there is no card reader, a code may be entered via the player controlled switches 33 to obtain enhanced game play, step 54. If a valid code is not entered via one of these options, then normal game operation takes place, step 42.

In the case where a code is entered, it is desirable, according to a preferred embodiment of the invention, that a luggage-type combination lock or similar graphic be depicted on the game display, step 56. This could consist of a rectangular enclosure having at least two compartments which simulate the luggage-type combination lock. Preferably the rectangle will include up to six compartments, each of which can be separately indexed by a player or players via the input switches 33. For each of the compartments, the player can, by operation of the switches, input letters, a number from zero through nine or other corresponding symbols. The player signals the game microprocessor to move from compartment to compartment until all compartments have been set to a desired combination of letters, numbers or symbols. The microprocessor then checks the combination, steps 58,

60 against a list of valid symbol combinations to determine matches. In the event of a match, the microprocessor enables an enhanced game operation mode corresponding to the particular code which has been input. This is indicated in Figure 3 at 62. The term code look-up means that the microprocessor compares the code which has been input, either through the magnetic card swipe or the player switches, against the combinations stored in a look-up table in the game ROM (or CMOS Ram or other non-volatile memory device). In this way, it is possible to have a plurality of valid codes, each of which may relate to a different type of enhanced game operation. Of course, many codes will not be present in the look-up table, thereby preventing random actuation of the enhanced features by players who do not possess the correct codes.

In this way, it is possible to reward players who have obtained the necessary codes, either through puzzles and games which can be placed in related books, magazines and strategy guides, or who have purchased merchandise related to the game and received, as a bonus, one or more codes or combinations entitling them to play certain features of the game at an advanced or enhanced level. A typical example of an enhanced game would include the ability to select certain hidden characters which are not otherwise available to a game player, the ability to endow a particular game character with powers which are not otherwise available to that character, the opportunity to advance to "rounds" or levels of the game which are not ordinarily available. Of course, the manner in which the game can be enhanced for selected users is limited only by the imagination of the game designer.

Although the present invention is principally suited for video game applications, it is possible, for those skilled in the art, to adapt it for use with other types of games as, for example, coin-operated pinball machines or novelty devices. The basic principal of the invention, providing enhanced game modes of play can be implemented in formats other than video by following the principles disclosed herein.

While preferred embodiments of the present invention have been illustrated and described, it will be understood by those of ordinary skill in the art that changes and modifications can be made without departing from the invention in its broader aspects. Various features of the present invention are set forth in the following claims.

What Is Claimed Is:

1. In an electronic game having a microprocessor control system, a game program and a display to provide information to game players the improvement comprising:

a) means for permitting players to input game codes to said microprocessor;

b) said microprocessor control system including means for:

(i) storing valid codes permitting access to enhanced game features;

(ii) requesting player input of game codes;

(iii) displaying the input codes received from the player on said display;

(iv) enabling predetermined enhanced game features if the input codes match the valid codes.

2. The device of Claim 1 wherein said means for player input includes a magnetic stripe card reader.

3. The device of Claim 1 wherein said means for player input includes player operated switches.

4. The device of Claim 1 wherein said means for storing valid codes is a read only memory.

5. The device of Claim 1 wherein said electronic game is a video game having a CRT display and the game codes are displayed on the CRT.

Fig. 1

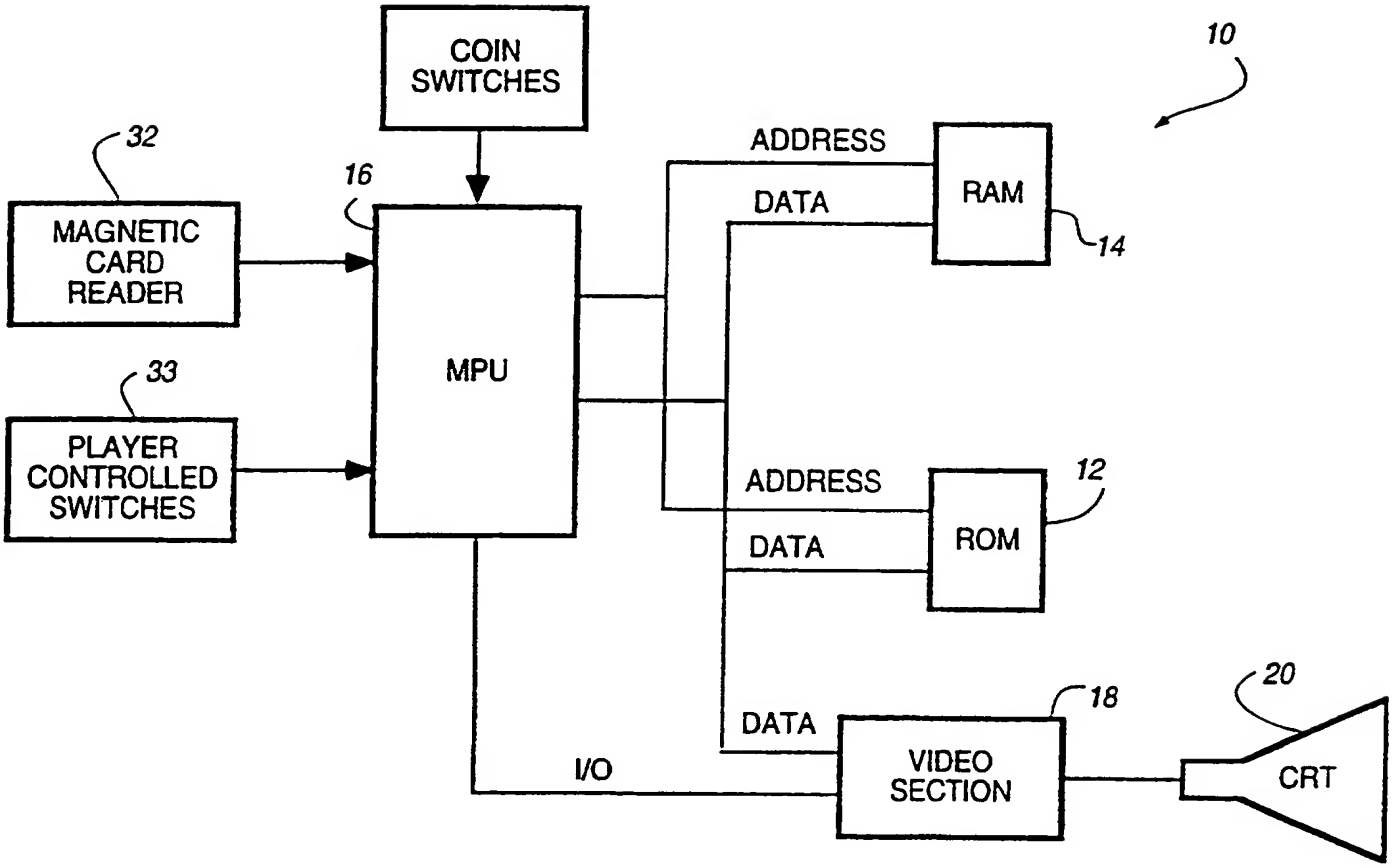


Fig. 2

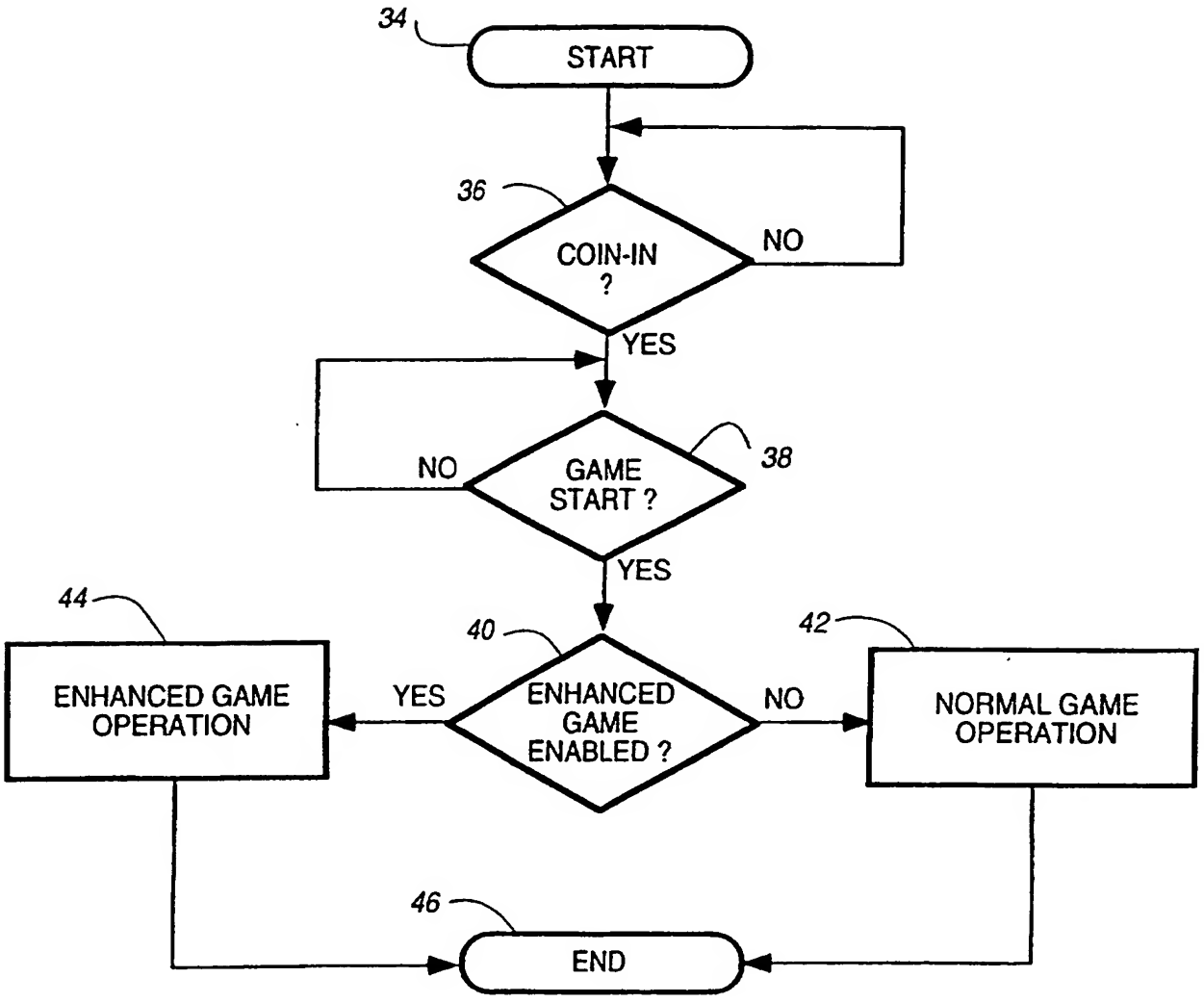
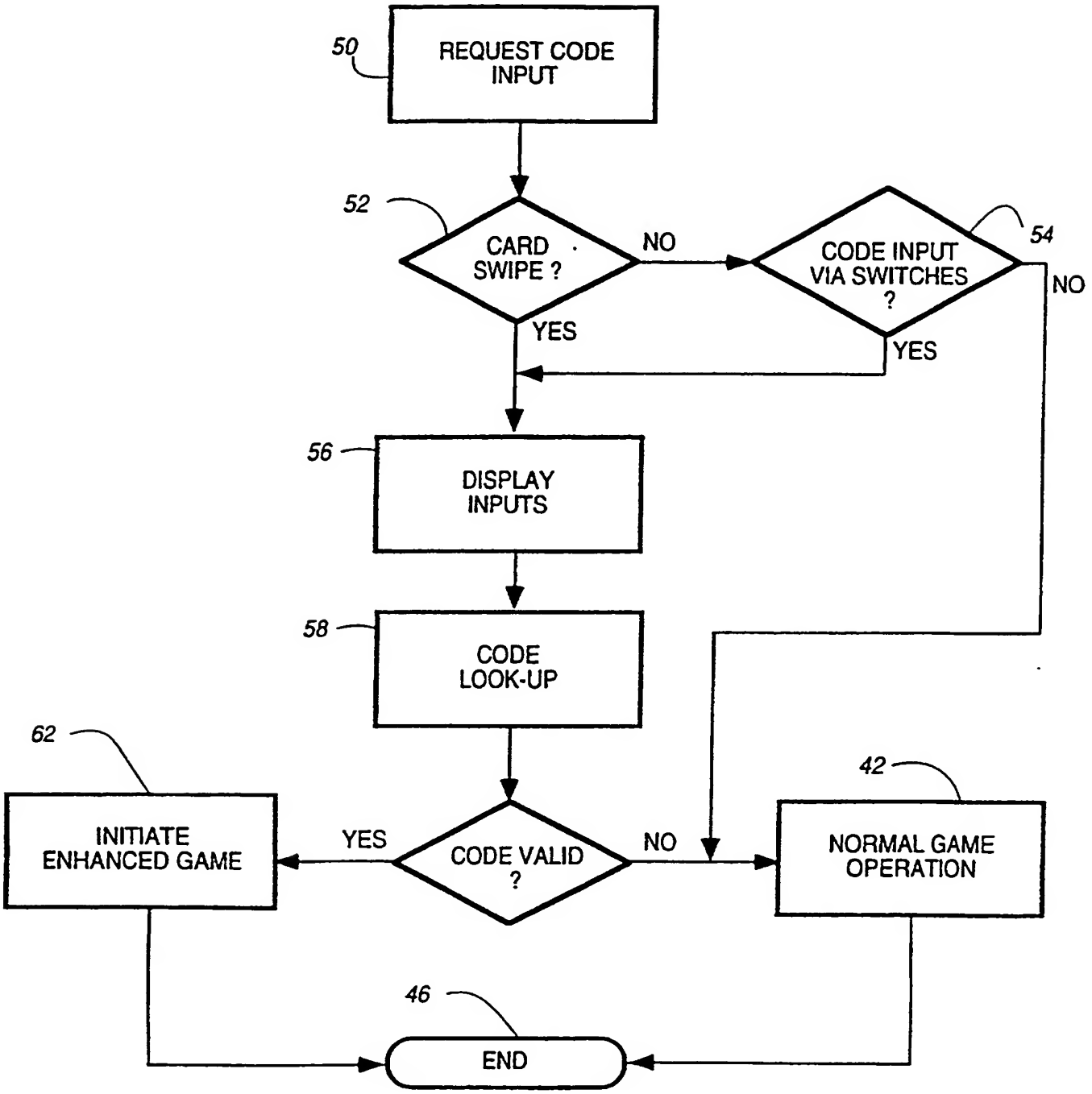

34
START
36
COIN-IN ?
NO
YES
NO
GAME START ?
38
YES
44
40
42
ENHANCED GAME OPERATION
YES
ENHANCED GAME ENABLED ?
NO
NORMAL GAME OPERATION
46
END

Fig. 3



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US96/19743

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :A63F 09/24
US CL :463/1, 25, 29, 36-38; 364/410
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 364/410; 463/1, 6, 7, 16, 17, 25, 29-31, 36-38

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P ----- Y,P	US 5,569,082 A (KAYE) 29 October 1996, col. 2, line 54 to col. 10, line 58; and Figs. 1-13.	1 ---------- 2-5
X --- Y	US 5,393,061 A (MANSHIP et al) 28 February 1995, col. 3, line 60 to col. 11, line 53; and Figs. 1-6g.	1, 3-5 ---------- 2
Y	US 5,179,517 A (SARBIN et al) 12 January 1993, Figs. 1-7.	2

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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